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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,332	08/01/2006	Graeme Mein	5458ST-1	1070
22442	7590	03/05/2008	EXAMINER	
SHERIDAN ROSS PC 1560 BROADWAY SUITE 1200 DENVER, CO 80202			HAYES, KRISTEN C	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/553,332	<b>Applicant(s)</b> MEIN, GRAEME	
	<b>Examiner</b> Kristen C. Hayes	<b>Art Unit</b> 3643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                        |                                                                   |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20051013, 20060925</u> .                                      | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 19 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. It is not known how the ratios are obtained, or how they are used to indicate an abnormality of the milk. In the instant spec, it is disclosed that "an indicator may provide an output signal or display which is representative of a ratio reading taken and compared with respect to the four udder quarters of the dairy animal involved." (page 13, lines 16-18) It is not understood how comparing ratio reading to the four udder quarters of a dairy animal would indicate milk abnormality. Also, it is not known what the ratios of the sensor output signals obtained from the milk are compared to.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 14-16 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. Claim 14 recites the limitation "the first extraction element" in line 2. There is insufficient antecedent basis for this limitation in the claim.
6. Claim 15 recites the limitation "the pulsator valves" in line 2. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 2, 4-7 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by

Swanson et al. US 4,344,385.

8. Regarding claim 1, Swanson discloses a sensor apparatus, milk extraction machinery including a plurality of extraction elements (16)(Swanson, column 2: lines 61-64), a collection line (25) comprising: a sensor (21) associated with the collection line adapted to detect the presence of a particular compound within the milk extracted (Swanson, abstract: lines 5-11), a controller (Swanson, column 2: lines 61-64), whereby activation of the extraction elements is controlled to prevent the at least one sensor being exposed to extracted milk supplied from all the extraction elements at one time (Swanson, column 2: lines 39-40).

9. Regarding claim 2, Swanson further discloses the extraction machinery used with the sensor apparatus being dairy animal milking machinery.

10. Regarding claim 4, Swanson further discloses the extraction element being formed from a single teatcup (16) which includes a pulsator valve ( Swanson, column 2: lines 61-64) associated with a pulsation system.

11. Regarding claim 5, Swanson further discloses the four extraction element teatcups (16) associated with four independent pulsator lines (32).

12. Regarding claim 6, Swanson further discloses the sensor apparatus wherein a single collection line (25) collects all milk delivered from a single animal.

13. Regarding claim 7, Swanson further discloses a sensor (21) integrated into a collection line.

Art Unit: 3643

14. Regarding claim 9, Swanson further discloses the sensor apparatus wherein a controller is formed by a pulsator controller of a dairy animal milking machine (Swanson, column 2: lines 61-64).

15. Claims 1-3, 6-8 and 21 are rejected under 35 U.S.C. 102(a) as being anticipated by Van den Berg NL 1020805 (translation from corresponding document, EP 1369031 disclosed on applicant's IDS).

16. Regarding claims 1 and 21, Van den Berg discloses a sensor apparatus used with milk extraction machinery including a plurality of extraction elements (1-4, 19-22), a collection line (6) comprising: a sensor (5) associated with the collection line adapted to detect the presence of a particular compound within the milk extracted (Van den Berg translation, ¶0007), a controller (19-22), whereby activation of the extraction elements is controlled to prevent the at least one sensor being exposed to extracted milk supplied from all the extraction elements at one time (Van den Berg translation, ¶0005).

17. Regarding claim 2, Van den Berg further discloses the extraction machinery used with the sensor apparatus being dairy animal milking machinery.

18. Regarding claim 3, Van den Berg further discloses the extracted milk being foremilk (in that the first milk drawn from the udder would be foremilk).

19. Regarding claim 6, Van den Berg further discloses a single collection line (6) collects all milk delivered from a single animal.

20. Regarding claim 7, Van den Berg further discloses the sensor integrated into a collection line (6).

21. Regarding claim 8, Van den Berg further discloses a sensor measuring electrical conductivity (Van den Berg translation, ¶0005).

Art Unit: 3643

22. Claims 1, 2, 4-7, 9-12, 15, 16, 21 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Nordegren et al. 4,011,838.

23. Regarding claims 1 and 21, Nordegren discloses a sensor apparatus used with milk extraction machinery including a plurality of extraction elements (4-7, 16, 36-39), a collection line (12) comprising: a sensor (14) associated with the collection line adapted to detect the presence of a particular compound within the milk extracted (Nordegren, column 5: lines 38-39), a controller (16, 36-39), whereby activation of the extraction elements is controlled to prevent the at least one sensor being exposed to extracted milk supplied from all the extraction elements at one time (Nordegren, abstract: lines 14-17).

24. Regarding claim 2, Nordegren further discloses the extraction machinery used with the sensor apparatus being dairy animal milking machinery.

25. Regarding claim 4, Nordegren further discloses the extraction element being formed from a single teatcup (4-7 can be used independently) which includes a pulsator valve (36-39 can be used independently) associated with a pulsation system.

26. Regarding claim 5, Nordegren further discloses the extraction element being formed from a four teatcups (1-4) associated with four independent pulsator lines (40-43) pulsation system.

27. Regarding claim 6, Nordegren further discloses a single collection line (12) collects all milk delivered from a single animal.

28. Regarding claim 7, Nordegren further discloses the sensor integrated into a collection line (12).

29. Regarding claim 9, Nordegren further discloses a controller formed by a pulsator (36-39) controller of a dairy animal milking machine.

Art Unit: 3643

30. Regarding claim 10, Nordegren further discloses a pulsator controller sequentially activating the pulsator valves of each teatcup (Nordegren, abstract: lines 14-17).

31. Regarding claim 11, Nordegren further discloses a single extraction element being pulsated at one time (Nordegren, abstract: lines 14-17).

32. Regarding claim 12, Nordegren further discloses a pair of extraction element being pulsated at one time (Nordegren, abstract: lines 14-17) (If the extraction elements are capable of being operated one at a time, they are capable of being operated two at a time)

33. Regarding claim 15, Nordegren further discloses the pulsator valves of non-activated extraction elements being partially activated during extraction of milk from an activated extraction element (Nordegren, column 5: lines 4-7).

34. Regarding claim 16, Nordegren further discloses the partial activation of an extraction element not causing milk to be extracted and delivered to at least one collection line (Nordegren, column 7, lines 36-38). (The first stimulation phase has a timeout value. When milk is not sensed by the sensor that means no milk has been produced which triggers the start of a second milking phase).

35. Regarding claim 22, Nordegren further discloses a pulsator valve (36-39) associated with each extraction element wherein each pulsator valve is associated with a pulsator line (40-43).

### ***Claim Rejections - 35 USC § 103***

36. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

37. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nordegren in view of Rubino US 4,572,104.

38. Regarding claim 13, Nordegren discloses a controller (16, 86) and a drainage delay period (Nordegren, column 8: lines 22-25) but does not disclose the period being between activation of different extraction elements. Rubino teaches a drainage delay period between activation of different extraction elements (Rubino, abstract: lines 1-4). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Nordegren so that milk received from one extraction element did not contaminate milk received from another extraction element.

39. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nordegren in view of Seaborne US 6,170,434.

40. Regarding claim 14, Nordegren further discloses a controller (16, 86). Nordegren does not disclose the first extraction element activated by a controller being selected randomly. However, this technique is known in the art, as disclosed by Seaborne (Seaborne, column 1: lines 32-35). It would have been obvious to one of ordinary skill in the art to select the first extraction element of Nordegren randomly so that the same extraction element would not continually be activated, which could cause incorrect readings (i.e. an error in one specific extraction element).

41. Claims 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swanson et al in view of Fullam et al. US 2006/0124064.

42. Regarding claim 17, Swanson discloses a device with the limitations of claim 1 but does not disclose an indicator. Fullam teaches an indicator (Fullam, ¶0069: lines 6-10). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device of



Art Unit: 3643

Swanson to include in indicator so that abnormal milk could be identified before mixing with normal milk.

43. Regarding claim 18, Swanson further discloses a diversion system (55) associated with the indicator to isolate abnormal milk (Swanson, column 3: lines 44-48).

44. Regarding claim 19, Swanson in view of Fullam discloses a device with the limitations of claim 17. Fullam (as best understood) further discloses milk abnormality detected through a comparison of ratios of sensor output signals obtained from milk extracted from an alternative extraction element (Fullam, ¶0069: lines 1-6). Ratios of numbers are often used to compare systems and determine error. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Fullam so that milk abnormality was detected through comparison of ratios of sensor output signals, as discussed above.

45. Regarding claim 20, Swanson in view Fullam discloses a device with the limitations of claim 17. Fullam further discloses a rolling average of sensor readings being employed to detect abnormalities in extracted milk (Fullam, ¶0074, Figures 3a, 3b). Rolling averages of sensor readings provide a means of determining abnormalities in systems. A peak or low in the sensor readings indicate that an error has occurred. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device of Swanson so that a rolling average of sensor reading was employed to detect abnormalities extracted in milk (as taught by Fullam), as discussed above.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kristen C. Hayes whose telephone number is 571-270-3093. The examiner can normally be reached on Monday-Thursday, 7:00-5:00.

Art Unit: 3643

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Poon can be reached on (571)272-6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KCH  
26 February 2008

Peter Poon  
Examiner  
Art Unit 3643

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